



ALM26 Series

1U Audio Level Meter Alarm Monitor

Analog or Digital Inputs, Up To Twenty-Four
Channels, Loss-of-Audio/Clipping/Phase
Monitoring, with Audible and Visual Alarm
and 26-Segment Hi-Resolution Level Meters

Document P/N 821644 Rev-A

User Manual

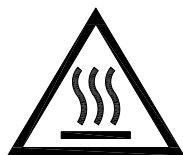
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Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat source such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched, particularly at plugs convenience receptacles and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) Do not expose this apparatus to rain or moisture.
- 16) The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

CAUTION!



In products featuring an audio amplifier and speakers, the surface at the side of the unit, where the audio amplifier heat sink is internally attached, may get very hot after extended operation. When operating the unit exercise caution when touching this surface and ensure that external materials which may be adversely affected by heat are not in contact with it. There is a Hot Surface label (see diagram) attached to the aforementioned surface of the product.

Introduction

Congratulations on your selection of a Wohler Technologies product. We are confident it represents the best performance and value available, and we guarantee your satisfaction with it.

If you have questions or comments you may contact us at:

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Section 1

General Features and Specifications

Description

Features

Applications

Specifications

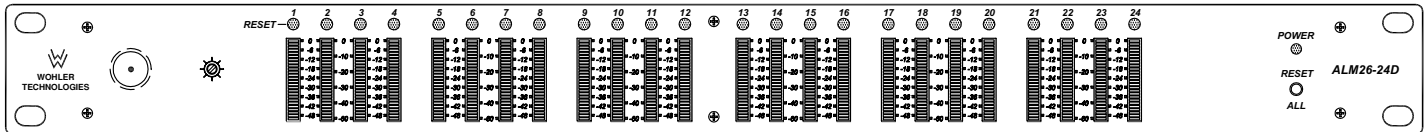
Standard Models

Other Options



ALM26 Series

1U Audio Level Meter Alarm Monitor



ALM26-24Dxx Front Panel

Description

The **Wohler ALM26 Series** systems provide audio level metering and audible and visual alarms for loss of audio, over-range (clipping), and phase/polarity reversal. When a fault condition occurs, it activates individual channel level meter LED behavior and sets off a mutable acoustic alarm. It also energizes a rear-panel relay contact closure(s) for external alarm indication.

High-resolution 26-segment tri-color LED bargraph display level meters provide a choice of VU and PPM display characteristics. These level meters are also used to display alarm conditions by flashing groups of red segments.

An alarm is activated by audio levels falling outside a pre-determined range for a pre-determined period of time. Each channel may be set individually, or grouped in stereo pairs. Clip and loss alarms are independently indicated on each channel. Carrier alarms (digital units only) and phase alarms are linked in stereo pairs. Individual reset buttons are provided for each channel, as well as a "reset all" button. A Piezo buzzer sounds when any channel indicates any type of alarm.

The unit may be easily configured using a Windows-based application.

The **ALM26 Analog** models monitor analog signals and feature "mini" Phoenix style input connectors as standard. The **ALM26 Digital** models monitor AES/EBU digital signals with a choice of Phoenix, BNC, or XLR input connectors. Custom variations are available.

Features

- Centralized monitoring of facility-wide signal conditions
- Only one rack space high
- Up to twenty-four channels can be monitored
- Up to twenty-four high-resolution 26-segment tri-color LED bargraph display level meters
- Analog or Digital (AES/EBU) models available
- Alarms for Signal Loss, Over-range (clipping), and Phase (polarity) reversal. Alarm for loss-of-carrier (loss of digital signal) is available on digital units.
- Adjustable level thresholds for alarm conditions
- Audible piezo alarm (mutable)
- Channel pairs may be configured as either mono or stereo on a per-pair basis
- Visible alarm indication via LED level meter behavior for each channel
- Full duplex RS-232 control/status
- Individual channel reset buttons
- Reset All button
- Balanced inputs on "mini" or standard Phoenix, BNC, or XLR connectors (depending on model)
- Alarm parameters configurable with Windows-based application
- Power indication LED

NOTE: In the model names *throughout this manual*, the unspecified channel quantity is indicated by "nn", the unspecified stereo/mono is indicated by "x", and unspecified connector option is indicated by "/x".

Applications

The ALM26 Series audio alarm monitor units are an adaptable and effective way to monitor any Analog or AES/EBU digital audio application. The following are some of the applications where an ALM26 Series unit would prove valuable.

- Radio Broadcast Station
- TV Control Room
- Remote Monitoring

Input Specifications

Input Sampling Rate:	32k - 48k Auto (AES)
Input Connector(s):	Analog: "Mini" Phoenix (standard) AES/EBU: Phoenix (standard) AES/EBU: BNC <u>or</u> XLR (optional)
AES Input Impedance:	Phoenix: 110 Ω , balanced XLR: 110 Ω , balanced BNC: 75 Ω , unbalanced
Analog Input impedance:	>10K Ω , balanced

Power Specifications

AC mains power:	100-250 VAC, 50/60 Hz universal input, auto switching
Power consumption:	25W

Physical Specifications

Dimensions (H x W x D):	1.75 x 19 x 8 inches 45 x 483 x 203 mm
Weight:	8 lbs./3.5 kg

Standard Models

ALM26 Series models may be ordered with a choice of 8, 16, and 24 channels standard. Other channel quantities (up to 24) may be ordered as special options. However, ALM26 Models utilizing XLR connector inputs are limited to twelve (12) or fewer channels due to space constraints resulting from the comparatively large size of XLR connectors.

NOTE: In the model names below and *throughout this manual*, the unspecified channel quantity is indicated by "nn".

ALM26-nnA:	Analog inputs on "mini" Phoenix connectors
ALM26-nnD:	Digital (AES/EBU) inputs on standard Phoenix connectors
ALM26-nnD/B:	Digital (AES/EBU) inputs on BNC connectors
ALM26-nnD/X:	Digital (AES/EBU) inputs on XLR connectors

Model Option Naming Key

1st Appended Letter.....	Signal	$\begin{cases} \mathbf{A} = \text{Analog} \\ \mathbf{D} = \text{Digital} \end{cases}$
2nd Appended Letter.....	Connector	$\begin{cases} \mathbf{(none)} = \text{Phoenix (3-Pin Male)} \\ \mathbf{/B} = \text{BNC (Female)} \\ \mathbf{/X} = \text{XLR (3-Pin Female)} \end{cases}$

NOTE: Analog models use 6-pin "mini" Phoenix connectors,
Digital models use standard 3-pin Phoenix connectors.

Other Options

Other options are available by special order including:

- Custom combinations of input connectors
- 53-segment high resolution displays in 2U rack size
- Alternative color boundaries

Other custom options are possible. Call your dealer or Wohler Technologies to discuss your specific needs.

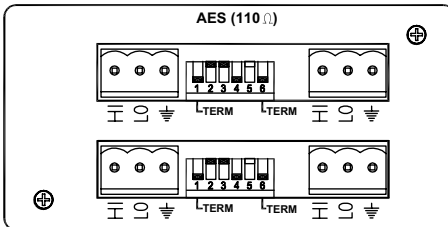
Units are designed to meet, at time of manufacture, all currently applicable product safety and EMC requirements, such as those of CE. Features and specifications subject to improvement without notice.

Rear Panel Configurations

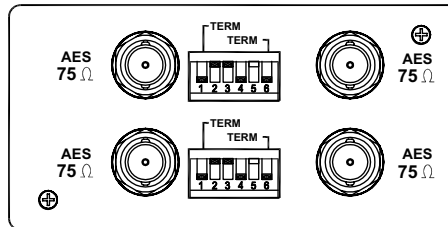
The 1U ALM26 rear panels are comprised of modular panel sections. In any given ALM26 model, from one to three of the modular panel sections contain the audio input connectors (unused sections have blank panels), with a fourth remaining section containing the alarm controller features. This arrangement permits mixing of different types of input modules, although such mixes are considered special order items. The number of channels is designated by a number following the ALM26 (i.e., ALM26-24 = twenty-four channels).

The following illustration shows three types of input panel section modules (two digital and one analog) available for use in the ALM26 Series. Analog models are referred to with an "A" appended to the standard product name and Digital (AES) models are referred to with a "D" appended. Models featuring Phoenix connector inputs do not append any letter to the model name as these connectors are considered standard. BNC connector inputs append a "/B" to the model name and XLR connector inputs append an "/X". See page 5 for a list of all standard models in the ALM26 series.

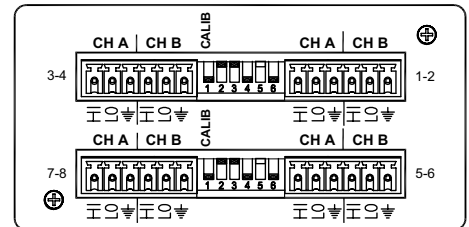
Please note that XLR models are limited to twelve channels (or less) due to space constraints when using the larger XLR connectors.



**Phoenix Input Modular Section
for ALM26-ndD**

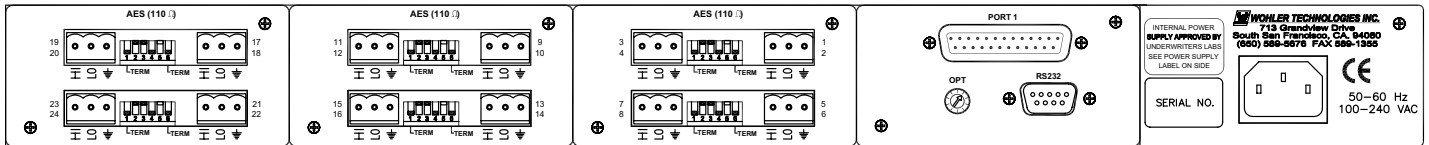


**BNC Input Modular Section
for ALM26-ndD/B**

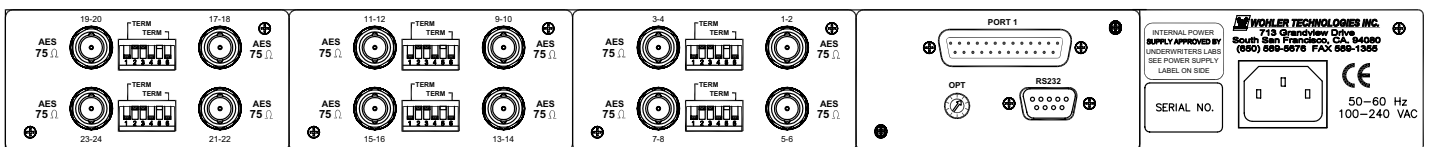


**"Mini" Phoenix Input Modular Section
for ALM26-ndA**

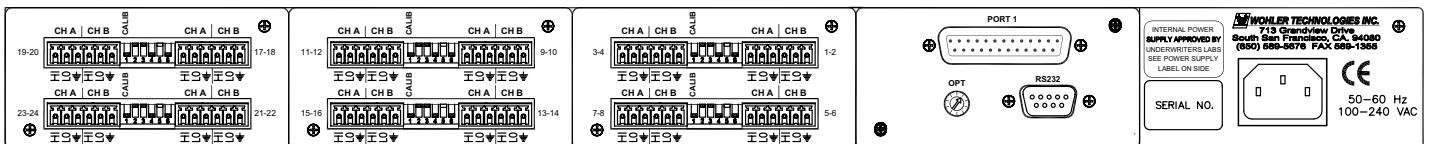
Below are examples showing three standard configurations of the ALM26 series rear panels for twenty-four channel units.



ALM26-24D Rear Panel (24-Channel Digital with Standard Phoenix Inputs)



ALM26-24D/B Rear Panel (24-Channel Digital with BNC Inputs)



ALM26-24A Rear Panel (24-Channel Analog with "mini" Phoenix Inputs)

Section 2

Operation

Installation

Alarm Sounder Enable/Disable Instructions

Front Panel Features

Rear Panel Features

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Installation

Mounting

The unit should be mounted where convenient for operating persons, ideally at approximately eye level for best visual monitoring.

Heat Dissipation

No special considerations for cooling are necessary as long as the ambient temperature inside the rack area does not exceed approximately 40°C (104°F).

Mechanical Bracing

The chassis is securely attached to the front panel at five points along its surface, not just at the four corners of the chassis ears. This feature will reduce or eliminate rear bracing requirements in many mobile/portable applications. The weight of internal components is distributed fairly evenly around the unit.

Audio Connections

Connection of the audio feeds is straightforward. Please refer to the system interconnect block diagram on pages 22 and 23 for clarification of the general signal paths into the ALM26 series units.

Care should be exercised to avoid mismatched cable types and other similar causes of undesired reflections in RF signal systems.

Electrical Interference

As with any audio equipment, maximum immunity from electrical interference requires the use of shielded cable; however, satisfactory results can sometimes be obtained without it. The internal circuitry common is connected to the chassis.

AC Power

The unit's AC mains connection is via a standard IEC inlet, with safety ground connected directly to the unit's chassis. The universal AC input (100-240VAC, 50/60Hz) switching power supply is a self-resetting sealed type, with automatic over-voltage and over-current shutdown. There is no user-replaceable fuse in either the primary or secondary circuit.

Alarm Sounder Enable/Disable Instructions

All ALM53 Series units feature a Piezo **Alarm Sounder** located on the front panel (**Item 1**, page 10). This sounder produces an audible alarm when any channel goes into any alarm condition. This sounder may be disabled or enabled using the instructions below. The sounder may also be enabled and disabled with the **WAC** software (see **Section 5.6, System Settings** in the **WAC** manual for details).

To **ENABLE** the acoustic sounder in the unit, perform the following steps on the front panel:

- 1) Hold down the **Reset All** button (**Item 6**, page 10)
- 2) Press and *release* the **Channel 3 Reset Alarm** button (**Item 4**, page 10)
- 3) Release the **Reset All** button

To **DISABLE** the acoustic sounder in the unit, perform the following steps on the front panel:

- 1) Hold down the **Reset All** button (**Item 6**, page 10)
- 2) Press and *release* the **Channel 1 Reset Alarm** button (**Item 4**, page 10)
- 3) Release the **Reset All** button

Front Panel Features

Please refer to the example in **Figure-2a** on the following page to familiarize yourself with the front panel features of the ALM26 Series units covered by this manual. The following sections describe these functions and are referenced, by number, to **Figure-2a**.

1 Alarm Sounder

This piezo **Alarm Sounder** speaker produces an audible alarm when any channel detects any alarm condition. See page 9 for instructions for how to disable or enable the **Alarm Sounder**.

2 Bargraph Brightness Trim Pot

This control is recessed into the front panel and can be accessed using a small screwdriver. Turning it clockwise will increase the relative brightness of the bargraph display LED segments. Adjusting this one control will simultaneously affect the brightness of all bargraph displays on the front panel.

3 Audio Level Meter LED Bargraph Displays (1-24)

Audio levels for the audio input sources are displayed via these 26-segment tri-color (green, amber, red) **LED Bargraph Display** level meters.

Each **LED Bargraph Display** represents a *single* channel. Each **Reset Button (Item 4)**, located above the LED bargraphs, has a channel number, which corresponds to the numbers found next to the input connectors on the rear panel. Bargraph displays are arranged in groups of four on the front panel, four being the number of input channels available in each input section on the rear panel.

ALM26-nnD (Digital): Each group of four bargraph displays is user adjustable for **Reference Level** calibration and **PPM/VU Display Mode** via a DIP switch module on the rear panel. This DIP switch module is located between the two input connectors in each input section on the rear panel. See **Item B**, page 12 for more information regarding the rear panel DIP switch locations and settings.

ALM26-nnA (Analog): Each group of four bargraph displays is user adjustable for **Reference Level** calibration and **PPM/VU Display Mode** via a DIP switch module on the rear panel. This DIP switch module is located between the two input connectors in each input section on the rear panel. See **Item D**, page 14 for more information regarding the rear panel DIP switch locations and settings.

Alarm Indication Behavior

Alarm conditions are indicated by lit LEDs in the 26-segment LED bargraph displays as follows:

- **Clipping Alarm** is indicated in the **Top** one third region of the bargraph LED segments.
- **Phase Alarm** is indicated in the **Middle** one third region of the bargraph LED segments.
- **Loss of Audio** is indicated in the **Bottom** one third region of the bargraph LED segments.
- **Carrier Loss** in a digital unit is indicated by all three regions of LED segments in the *left* channel, and the top and bottom regions in the *right* channel turning RED. The center region on the right side is left dark. This creates a flashing red “C” between the two channels.

In an alarm condition, the applicable bargraph LED segments (see above) will alternately flash between RED and the color previously displayed in the individual LED segments. To reset the alarm behavior for each individual LED bargraph, press the **Reset Button** directly above the bargraph (**Item 4**). To simultaneously reset the alarm behavior of ALL the bargraphs in the unit, press the **Reset All Button (Item 6)**. See **Alarm Resets** in **Section 7.0** in the **Wohler Alarm Controller (WAC)** manual (P/N 821642) for details on reset function modes available through the WAC software. Note that these buttons also reset the peak-hold segment when manual peak hold mode is enabled (see page 20).

NOTE: Each of the alarm features described above may be enabled or disabled on a per channel basis or on a unit wide basis through the WAC (**Wohler Alarm Control**) software. See **Setting Alarm Channel Parameters, Section 5.5** and **System Settings, Section 5.6** in the WAC manual (P/N 821642) for details.

4 Reset Button (1-24)

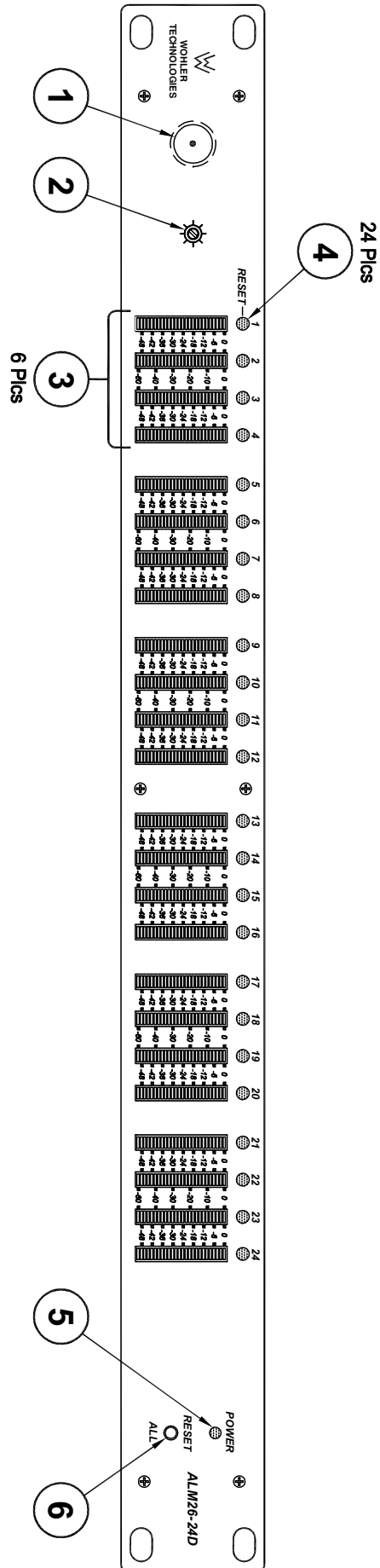
These momentary push-buttons reset the level meter alarm function for each *individual* channel. When a button is pushed, only the level meter located directly below it is reset.

5 Power Indication LED

This LED lights up GREEN to indicate the ALM26 Series model is connected to operational mains power.

6 Reset All Button

This momentary push-button simultaneously resets the level meter alarm function for ALL the channels in the unit. Note that this button will also reset the peak-hold segment of all the meters with manual peak hold mode enabled (see page 20).

**Figure-2a: Front Panel Features**

Rear Panel Features

Please refer to **Figure-2b** on the following page to familiarize yourself with the rear panel features of the ALM26 Series units covered by this manual. The following sections describe these features and are referenced, by letter, to **Figure-2b**.

A Digital (AES) Audio Inputs

(ALM26-nnD Only)

Each input connector receives an AES digital signal from which two channels are derived.

A1 Phoenix Connectors (Standard)

These **Phoenix** (or **XLR**) connectors are configured for a *balanced* (110 Ω impedance) connection. Channel numbers are displayed on a label to the side of each connector and correspond to the channel numbers above the associated LED indicators on the front panel. Connector pinout information is silk-screened just below each connector.

A2 BNC Connectors (Optional)

These **BNC** connectors are configured for an *unbalanced* (75 Ω impedance) connection. Channel numbers displayed on a label above *or* below each connector and correspond to the channel numbers above the associated LED indicators on the front panel.

B Digital AES Termination, Reference Level, and Display Mode DIP Switch

(ALM26-nnD Only)

This DIP switch sets the **Termination** for the input connectors, and the bargraph **Display Mode** and **Reference Level** for the associated bargraph displays. Each DIP switch module affects only the four channels (two input connectors) within the section in which it is located. See the descriptions and diagram below for setting information.

Termination:

Switch sections **1** (left connector) and **6** (right connector) respectively set the termination for the connector inputs in each 4-channel input section. The respective DIP switch section should be moved to the **UP** position to **UNTERMINATE** the connector if the input signal is fed to downstream equipment. The respective DIP switch section should be moved to the **DOWN** position to **TERMINATE** the connector if the input signal is *not* fed to downstream equipment. The factory **default setting** is **TERMINATED** for each input connector. See diagram below for settings.

Reference Level:

DIP switch sections **2** and **3** determine the **Reference Level**, which adjusts the level of the input signal and the resultant level displayed on the LED bargraphs. Factory setting is -20 dBfs. See diagram below for settings.

Bargraph Display Modes:

DIP switch sections **4** and **5** determine how peak levels are displayed for the four associated meters on the front panel. There are four possible settings; **VU Bargraph Only**, **VU Bargraph with PPM Floating Segment**, **PPM Bargraph Only**, and **PPM Bargraph with PPM Floating Segment**. The factory default setting is **VU Bargraph with PPM Floating Segment**. See diagram below for settings. See the **ALM26 Internal Settings - Address, Peak Hold, PPM Characteristics** diagram on page 23 for how to set the **Peak Hold** and **PPM Ballistics** characteristics.

ALM AES Digital Rear Panel DIP Switch Settings			
Termination (Left Side Input)	Reference Level	Display Mode	Termination (Right Side Input)
1 Term Unterm 1 2 3 4 5 6	2 3 -9 dBfs -18 dBfs -20 dBfs Not Used 1 2 3 4 5 6	4 5 VU Bargraph with VU Floating Segment VU Bargraph with PPM Floating Segment PPM Bargraph Only PPM Bargraph with PPM Floating Segment 1 2 3 4 5 6	6 Term Unterm 1 2 3 4 5 6

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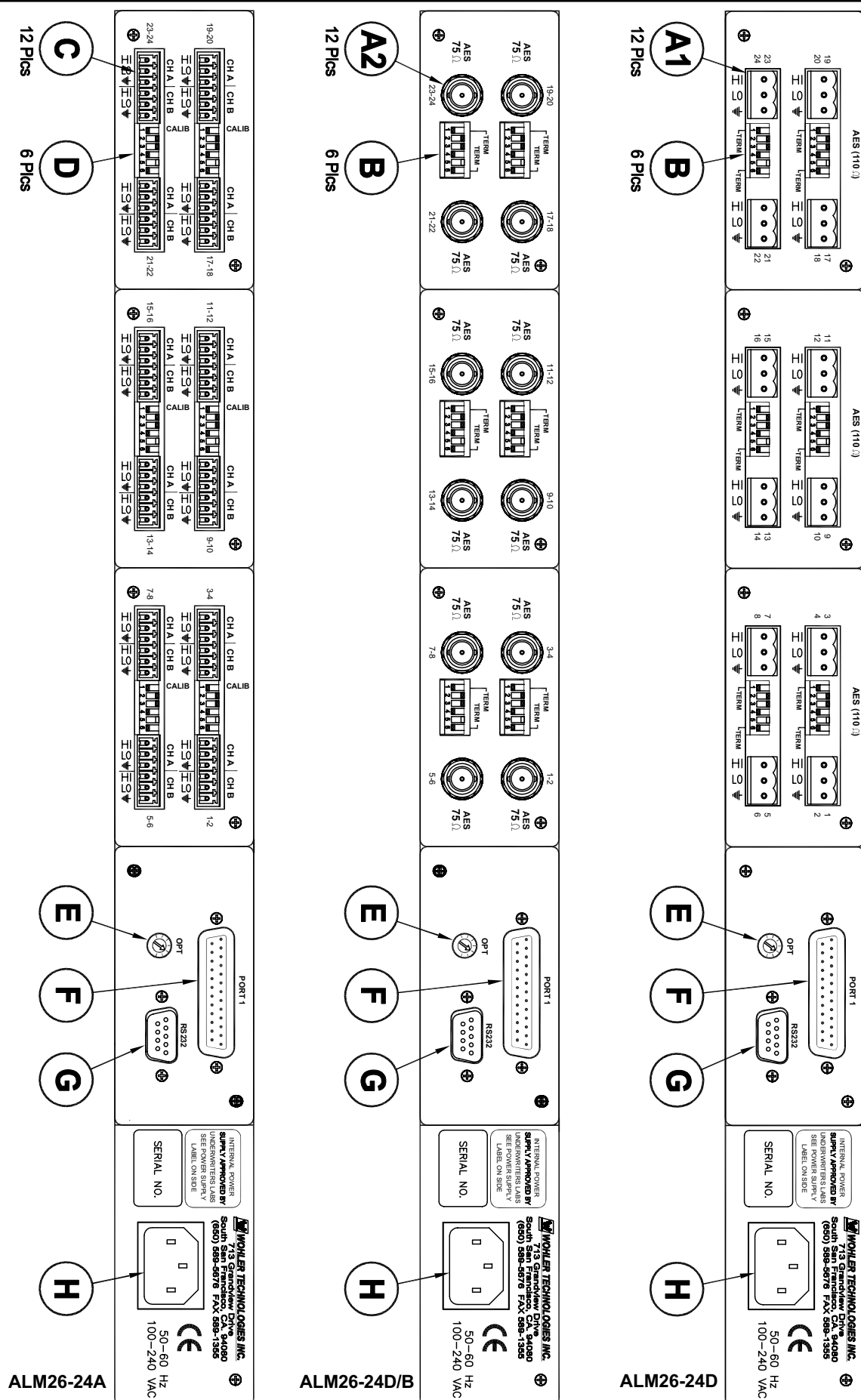


Figure-2b: Rear Panel Features

Rear Panel Features

(Continued)

C Analog Audio Inputs

(ALM26-nnA Only)

The Analog units have *balanced* ($>10K \Omega$ impedance) inputs terminated in 6-pin "mini" **Phoenix** connectors. There are two separate analog signals; one signal to the *left* three pins (**CH A**) and the second signal to the *right* three pins (**CH B**). There are two input connectors per input section (4 channels). Channel numbers are displayed on a label to the side of each connector and correspond to the channel numbers above the associated bargraph meters on the front panel. Pin-out information is silk-screened on the rear panel directly below each connector.

D Analog Line Level, Reference Level, and Display Mode DIP Switch

(ALM26-nnA Only)

This DIP switch sets the **Line Level Calibration**, **Reference Level**, and **PPM/VU Display Mode**. Each DIP switch module affects only the four channels within the section in which it is located. See the descriptions and diagram below for setting information.

Line Level (Auto) Calibration:

The unit is calibrated at the factory. To recalibrate:

- 1) Turn on the power.
- 2) Apply the desired reference level (nominal 0) signal to all four channels.
- 3) Make sure the **Reference Level** DIP sections (2 and 3) are set to the nearest level of the input signal being applied for calibration (i.e., 0, +4, +6 or +8). The user should make sure that the signal applied to all four channels is within ± 4 dB of the reference level selected by DIP switch sections 2 and 3.
- 4) Place DIP section 1 in the **DOWN** position.
- 5) Wait 10 seconds. The unit will remove the previous calibration and the *new* calibration will be applied.
- 6) Place DIP section 1 in the **UP** position and return unit to service.
- 7) Only ONE auto-calibration attempt may be made for each cycling of AC power to the unit. Once the **Line Level Calibration** DIP switch has been placed in the **CAL** position, it is necessary to cycle the power before that DIP switch will be functional again, EVEN if a calibration attempt was unsuccessful.

If one wishes to calibrate again, turn off the power to the unit and repeat steps 1 through 6.

Reference Level:

DIP switch sections 2 and 3 determine the **Reference Level**, which adjusts the level of the input signal and the resultant level displayed on the LED bargraphs. Factory setting is +4 dB. See diagram below for settings.

Bargraph Display Mode:

DIP switch sections 4 and 5 determine how peak levels are displayed for the four associated meters on the front panel. There are four possible settings; **VU Bargraph Only**, **VU Bargraph with PPM Floating Segment**, **PPM Bargraph Only**, and **PPM Bargraph with PPM Floating Segment**. The factory default setting is **VU Bargraph with PPM Floating Segment**. See diagram below for settings. See the **ALM26 Internal Settings - Address, Peak Hold, PPM Characteristics** diagram on page 23 for how to set the **Peak Hold** and **PPM Ballistics** characteristics.

ALM Analog Rear Panel DIP Switch Settings		
Meter Calibration	Reference Level	Display Mode
 Calibrate  Operate 1 2 3 4 5 6	 +8 dB  +6 dB  +4 dB  0 dB 1 2 3 4 5 6	 VU Bargraph with VU Floating Segment  VU Bargraph with PPM Floating Segment  PPM Bargraph Only  PPM Bargraph with PPM Floating Segment 1 2 3 4 5 6

Note: Position-6 of DIP switch is not functional

NOTE: For more accurate indication of signal levels, *analog* meters are tuned to effect a "rounding" function which occur BETWEEN the thresholds of any two bargraph segments. This means the level meter zero LED segment will turn on at one-half the smallest spacing between LED segments (mid-scale resolution) *before* that segment's scale indication. This "rounding offset" is **0.5 dB** for the **Analog (extended VU)**, **Digital**, **Nordic**, **BBC**, and **DIN** scales. It is **0.25 dB** for the **VU** scale. For example, using the **Analog (extended VU)** scale, a meter calibrated for a +4 dBu nominal level will actually turn the zero LED segment of the level meter on at **3.5 dBu** and *all* segments will turn on at 0.5 dBu *before* that segment's silk-screened scale indication.

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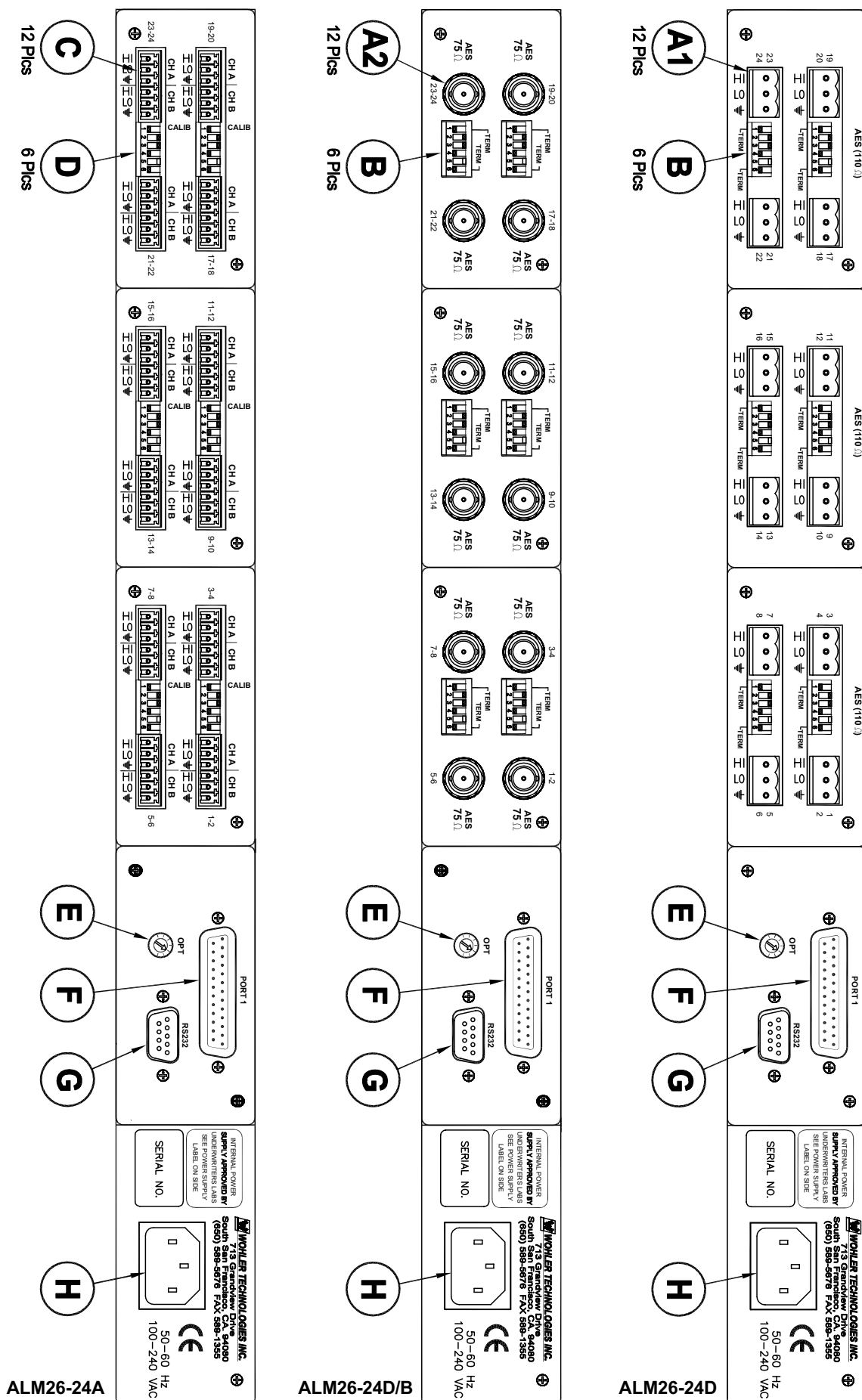


Figure-2b: Rear Panel Features

Rear Panel Features

(Continued)

E Option Select Switch

This 10-position **BCD** (Binary Coded Decimal) rotary switch is used to set operation of the unit. It can be accessed using a small flathead screwdriver or similar tool. See table below for settings.

Please note that choosing alternate scales may require a change to the scale indication silk-screening next to the bargraph display level meters on the front panel. See page 24 (**Level Meter Alternative Scales**) for more information.

Option Select Switch - 10-Position	
Position	Function
0	Factory Only
1	Factory Only
2	Factory Only
3	AES Scale
4	Extended VU Scale
5	VU Scale
6	BBC Scale
7	NORDIC Scale
8	DIN Scale
9	Custom Scale

F Port 1 Connector

This DB-25 connector (Port 1) is used to convey alarm conditions to outboard equipment. This port has isolated contact closures, which indicate Alarm conditions for the associated channel or channel pair. These contacts are normally open and close on alarm.

In units with twelve or fewer channels, each relay represents a single channel. In units with *more* than twelve channels, each relay represents a pair of channels.

A summary contact pair exists between pins 1 and 14. If any relay pair in the unit closes, the summary contacts also close.

Example: If channel 15 or 16 trips into alarm, a contact closure will occur between pins 9 and 21 *and* between pins 1 and 14 for the duration of the alarm.

See the table to the right for connector pinout details.

NOTE: An option is available to make the relay operation independent of the alarm indications and resets. Contact the factory for details and instructions on enabling this option.

Port 1 DB-25 Pinout			
D-Sub Pin Number		Unit Configuration	
Relay Contact A	Relay Contact B	More than 12 Channels	12 or fewer Channels
1	14	Unit Alarm	Unit Alarm
2	14	Ch. 1-2	Ch. 1
3	15	Ch. 3-4	Ch. 2
4	16	Ch. 5-6	Ch. 3
5	17	Ch. 7-8	Ch. 4
6	18	Ch. 9-10	Ch. 5
7	19	Ch. 11-12	Ch. 6
8	20	Ch. 13-14	Ch. 7
9	21	Ch. 15-16	Ch. 8
10	22	Ch. 17-18	Ch. 9
11	23	Ch. 19-20	Ch. 10
12	24	Ch. 21-22	Ch. 11
13	25	Ch. 23-24	Ch. 12

NOTE: Pin 14 is a common contact for both the Unit Alarm relay and the first channel relay.

G Serial Control Connector

This connector is used for Remote Control and for software upgrades of the product. See table below for pinout information.

RS232 Serial Control DB-9 Pinout (DCE)	
Pin#	Function
1	DCD
2	Rx Data
3	Tx Data
4	DTR
5	Ground
6	DSR
7	RTS
8	CTS
9	Not Used

Note:

Pins 1, 4, and 6 are linked and pins 7 and 8 are linked. Hardware handshaking is not used for communications, and these pins (1, 4, 6, 7, and 8) may be left unconnected if desired.

H Power Input Connector

Attach a standard IEC-320 power cord between this connector and mains power (100 - 240VAC nominal, 50/60 Hz). The front panel **Power Indication LED** (Item 5, page 10) will glow GREEN to indicate operating voltages are present.

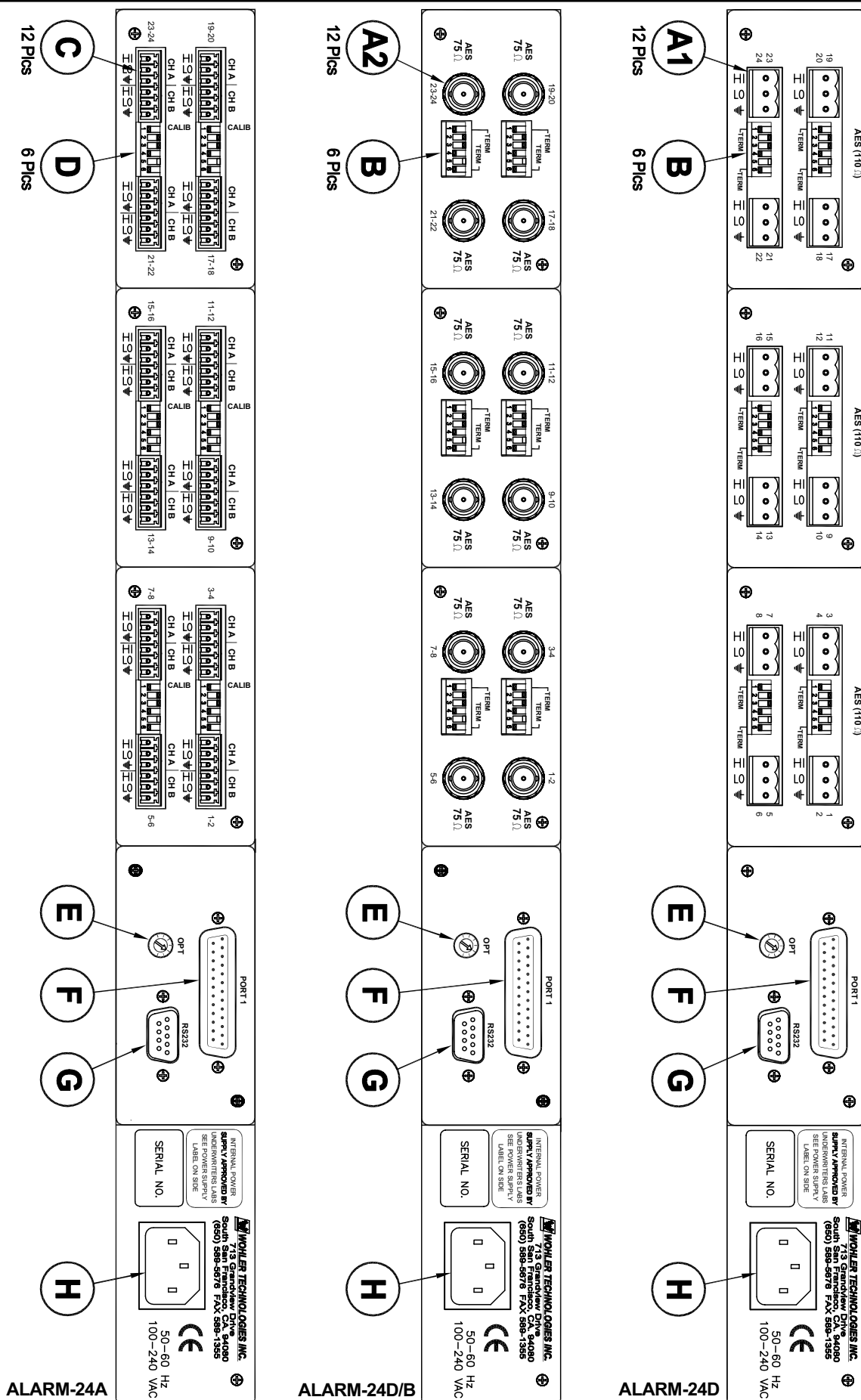


Figure-2b: Rear Panel Features

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Section 3

Technical Information

LED Bargraph Display Specifications

ALM26 Internal Settings - Address, Peak Hold, PPM Characteristics

Level Meter Alternative Scales

ALM26 (Analog) Interconnect Block Diagram

ALM26 (Digital) Interconnect Block Diagram

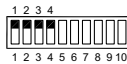
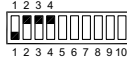
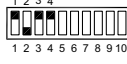
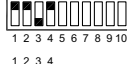
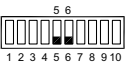
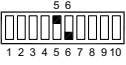
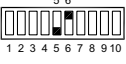
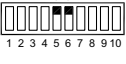
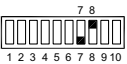
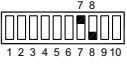
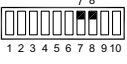
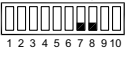
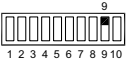
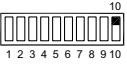
LED Bargraph Display Specifications

Level meter type:	LED bargraph
Segment quantity:	26
Level gain (DIP switch selectable):	0, +4, +6, +8 dB
Bargraph Length:	1.078" (27.85 mm)
LED segment size:	0.14" x 0.028" (3.57 x 0.7 mm)
LED segment pitch:	0.041" (1.05 mm)
Segment display color:	Tri-color (red, amber, green)
Peak emission wavelength:	Green: 570 nm, Red: 630 nm
Segment brightness, (If = 20 mA):	3.5 mcd
Segment brightness, uniformity:	<10% difference between segments
Adjacent segment "Off" brightness:	<1% of brightness of active segment

Notes:

- 1) For level meter **Input Reference** and **Display Mode** settings, see pages **12** (Digital) and **14** (Analog).
- 2) For level meter **Addressing**, **Peak Hold**, and **PPM Characteristics** settings, see this page, below.
- 3) For level meter **Alternate Scales** information, see page **21**.

ALM26 Internal Settings - Address, Peak Hold, PPM Characteristics

ALM26 Internal 10-Position DIP Switch Settings		
Address (Factory Set)	Peak Hold (Bargraph Display)	PPM Ballistics (Bargraph Display)
 Channels 1 to 4  Channels 5 to 8  Channels 9 to 12  Channels 13 to 16  Channels 17 to 20  Channels 21 to 24	 Peak Hold - Manual  Peak Hold - 3 Second  Peak Hold - 10 Second  Peak Hold - Off	 IEC268-10, Type 1  IEC268-10, Type 2  DIN 45406  Single Sample Return Time (SSRT)
Factory Settings		
	 PC (Not Used)	 RM (Not Used)

Note: DIP switch is located on Analog Input PCB (919174) or Digital Input PCB (919175).

NOTE: The **Peak Hold** feature (if enabled) will only be visible if a floating segment is also enabled (see **Bargraph Display Modes** sections on pages **12** and **14**).

PPM Characteristics (Ballistics):

The **PPM** characteristics determine the **Integration Time** (rise time) and **Return Time** (fall time) of the level meter. The **Integration Time** is the time it takes for the lighted segments of the level meter, after application of a 5 KHz tone at a certain reference level, to *rise* within a specified number of dB of that level. **Return Time** is the time it takes for the lighted segments of the level meter to *fall* a certain number of dB after removal of a 5 KHz tone of a certain reference level. The **PPM** characteristics available for selection using DIP switch sections **7** and **8** of the 10-position **Internal DIP Switch** (as shown in the above diagram) are as follows:

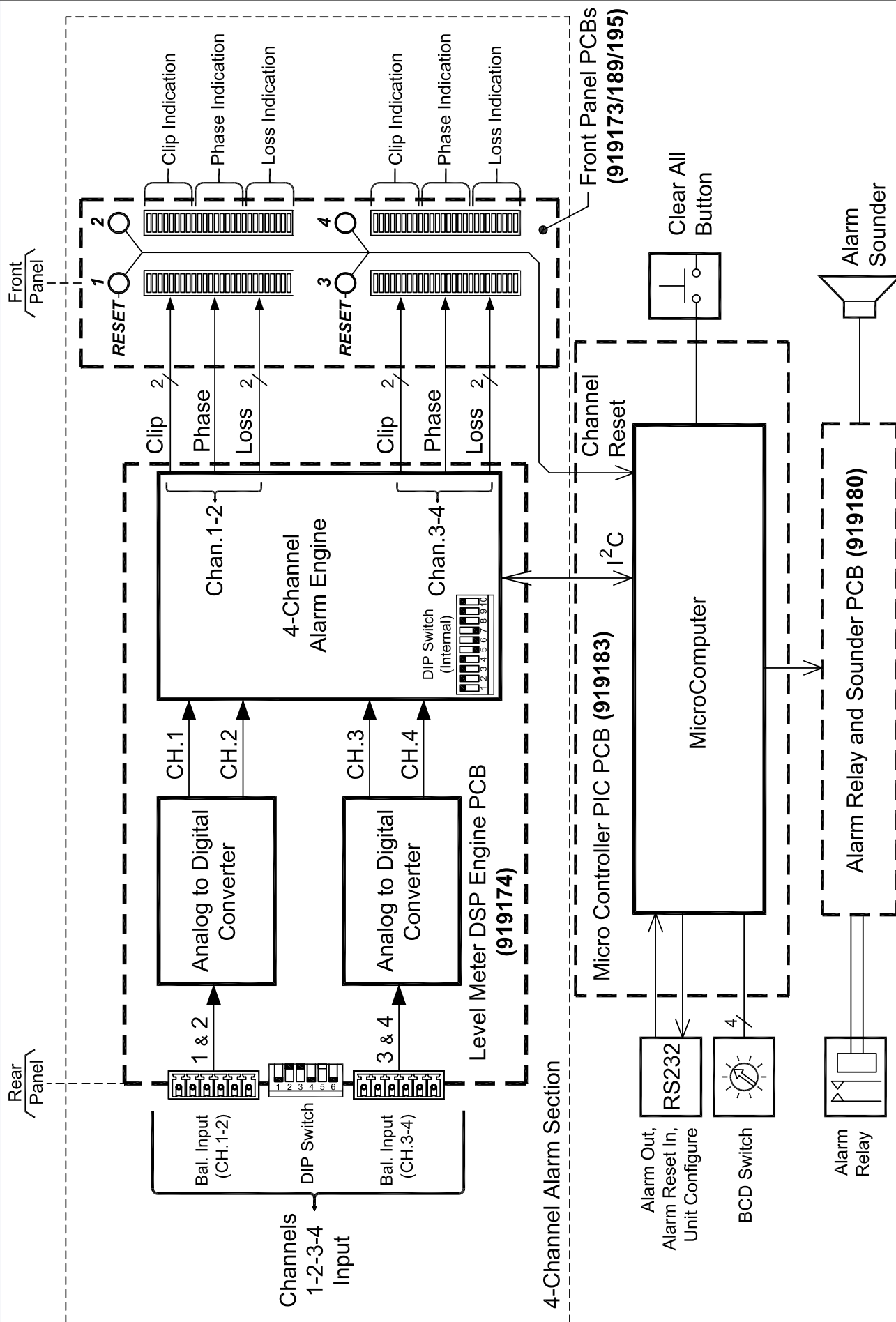
IEC268-10, Type 1:	Integration Time is 5 ms (-2 dB), Return Time is 1.7 seconds (20 dB)
IEC268-10, Type 2:	Integration Time is 10 ms (-2 dB), Return Time is 2.8 seconds (24 dB)
DIN 45406:	Integration Time is 5 ms (-2 dB), Return Time is 1.5 seconds (20 dB)
Single Sample:	Integration Time is a single sample, Return Time is 1.5 seconds (20 dB)

Level Meter Alternative Scales

The standard scales used on the **ALM26** Series level meters are the **Extended VU** scale for *analog* models and **AES** scale for *digital* models (see diagram below). However, if alternative scale characteristics are selected for the level meters using the **Option Select Switch (Item F, page 16)**, it is recommended that a label with the appropriate scale be applied to the front panel LED bargraph level meters. Alternative scales include the **VU**, **BBC**, **NORDIC**, and **DIN** scales (see diagram below for scale comparison). Contact **Wohler Technologies** for information about alternative scale labels for the **ALM26** Series units. Note that the color boundaries for all of the scales (standard and non-standard) can be modified. Contact the factory for instructions.

AES (Digital) Scale (Standard)	Extended VU (Analog) Scale (Standard)	Alternate AES Scale (Custom)	VU Scale	BBC Scale	NORDIC Scale	DIN Scale

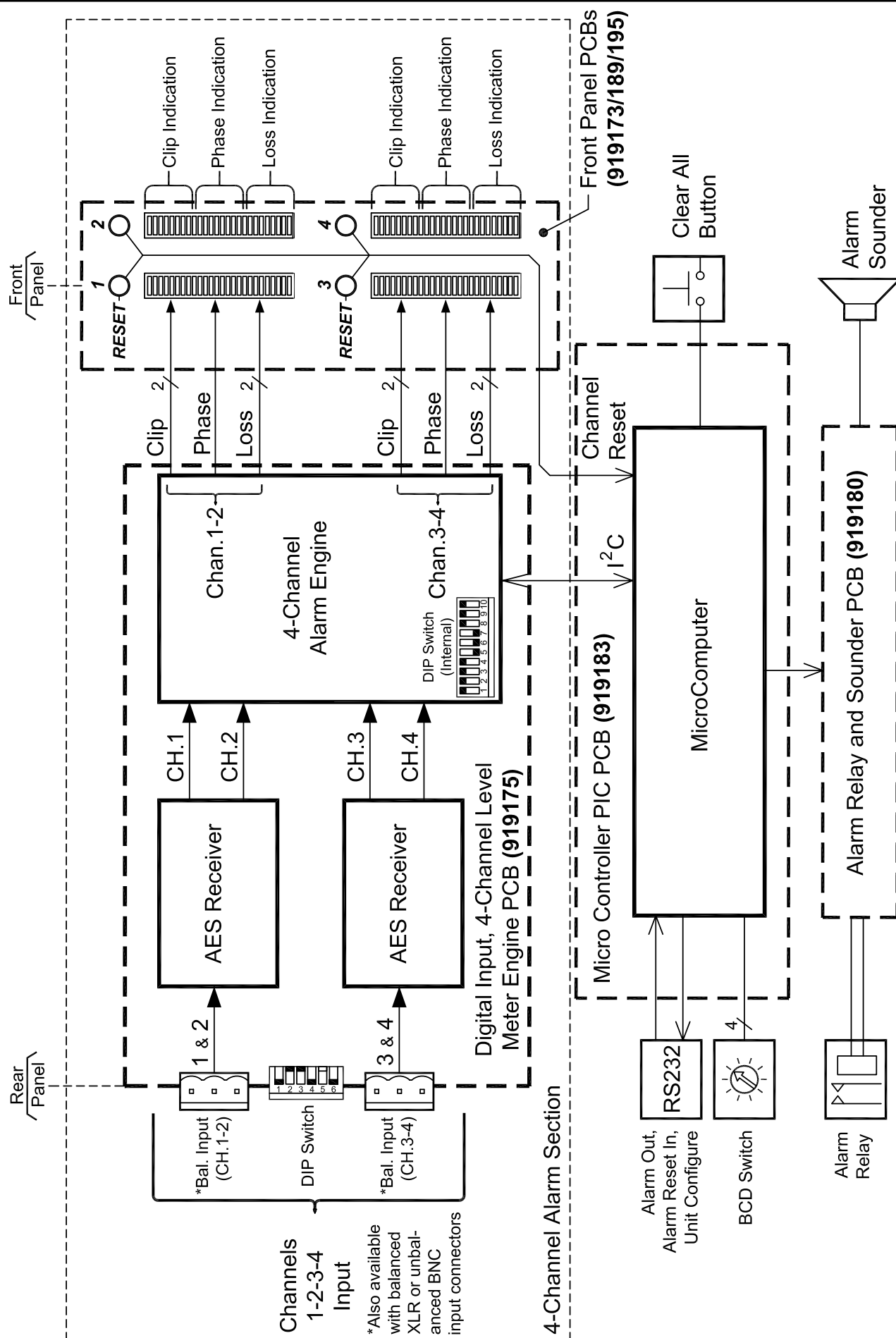
ALM26 (Analog) Interconnect Block Diagram



03/16/06 Rev-B

ALM26 (Analog) Interconnect Block Diagram

ALM26 (Digital) Interconnect Block Diagram



03/16/06 Rev-B

ALM26 (Digital) Interconnect Block Diagram



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